**Project Description:**

**BiteBack** is an app that helps businesses reduce food waste by allowing them to sell surplus food at a lower price. This allows businesses to stay profitable while also providing clients with low-cost meals. The software aims to assist the UN in achieving its Sustainable Development Goals (SDGs), particularly SDG 2 (Zero Hunger) and SDG 12. Budget-conscious individuals, including students, families, and working professionals, are in search of affordable, environmentally conscious meals. These consumers frequently stress value and sustainability in their dietary selections. And for its vendors. Small business proprietors, such as those operating food stalls, cafes, restaurants, grocery stores, and buffets, often face the challenge of unsold food. They intend to reduce losses by selling surplus food, decreasing waste, and increasing sustainability initiatives.

**Requirements Summary:**

**Core Functional Requirements**

* **Consumers**
  + Browse & filter surplus offers by *price*, category, and distance ≤ 5 km.
  + One-tap *Reserve & Pay* (e-wallet, debit/credit, or cash-on-pick-up).
  + Secure pick‑up via *QR/order ID* validation within the vendor app.
* **Vendors**
  + Quick-add leftover items: photo, quantity, expiry, price, discount tier.
  + Real-time *Manage Listings* (edit, pause, auto-expire).
  + *Sales & Waste Saved Dashboard*.

### **2.2 Functional & Environmental**

* Performance: <1 s median response; gracefully degrades on 3G.
* Reliability: Stock status sync interval <60 s to avoid ‘ghost deals.’
* Localization: Filipino–English toggle; units in pesos & metric.
* Accessibility: WCAG 2.1 A baseline; scalable touch targets ≥48 × 48 px.
* Offline Tolerance: The consumer side cache last-seen offers; the vendor side requires sync.

### **2.3 Usability & UX Targets**

* New consumer completes first reservation in ≤3 steps (<90 s).
* The vendor creates a listing in ≤4 taps (<30 s) at closing time.
* Task completion rate ≥95% in pilot with *n* = 15 mixed-ability users.
* System Usability Scale (SUS) goal ≥ 80.

### **2.4 Business & Sustainability Metrics**

* Commission ceiling ≤ 15 % per transaction.
* Vendor retention after 30 days ≥ 70 %.

### **2.5 Regulatory & Trust**

* Safe‑handling pop‑ups and vendor liability disclaimer.
* PCI‑DSS compliance for payments; GDPR/PhilData privacy adherence.

**Design Space:**

**3.1 Hard‑to‑Realise Requirements**

* Real‑time stock accuracy relies on manual vendor input risk of ‘ghost’ deals.
* Balancing geolocation precision with user privacy.
* Seamless payment integration for both unbanked users (e‑wallets) and card holders.

### **3.2 Explored Trade‑offs**

* Information density vs. cognitive load – rich dish images & allergen icons give confidence but slow load times.
* Push vs. pull notifications – higher conversion but risk of notification fatigue.
* Fixed vs. dynamic discount tiers – transparency against maximising vendor revenue.

### **3.3 Task Complexity Assessment**

* Easiest: browsing offers, single‑tap reservation, map pinch‑zoom.
* Hardest: vendor bulk‑upload, last‑minute inventory updates, coordinating staggered pick‑up windows.

## **Design Summary**

Not Added

* Map‑centric “treasure hunt” views
* Card‑swipe micro‑marketplace
* Subscription ‘mystery box’ flows

**The Design**





